

KEY TO PUGET TROUGH TERRESTRIAL PLANT ASSOCIATIONS

July 1, 2004

Does not include riparian floodplain vegetation.

Instructions:

1. Select a relatively uniform area of vegetation and topography to key out. A representative 1/10 acre plot is a simple way to examine a stand, just be sure the plot does represent the stand of interest.
2. "Present" means the species is found on a representative 1/10 acre plot, i.e. it regularly occurs in the stand.
3. This is not a classic dichotomous key but an abbreviated form of a dichotomous key. Each line is mutually exclusive from the next line down in the key. If the stand or plot meets all the criteria in a line, then read to the right or (if blank) to the next indented line down. If the stand or plot does not meet the criteria in a line, then go to the next line down the page that is not indented from the current line.
4. A dominance type key precedes keys to the individual associations within the dominance types.
5. Percentage values in the key (e.g., 25%) refer to % crown cover, that is the vertical projection below the entire crown of the plant, do not subtract for spaces between leaves and branches.
6. Snowberry in the key refers to both species of snowberry, common and creeping, unless preceded by the species name.
7. "+" = add the crown cover of each of the species indicated, e.g. 7+22 = 29% cover, overlap between the species gets counted twice.
8. "Dominant successful regeneration" refers to the tree species that is most abundant in <5 inch dbh size classes (understory trees) and that has at least 30 individuals per acre of this size (at least 3 on a representative 1/10 acre plot).
9. "Olympic Mountains rainshadow" refers to a geographic and climatic area encompassing San Juan County, far western Skagit and Whatcom counties (Cypress, Guemes, Lummi, Fidalgo islands), northern and central Island County, northeastern Jefferson County (Miller and Quimper Peninsulas), and part of eastern Clallam County (Sequim Bay to Port Angeles).
10. **The key is not the classification.** After you have keyed out a stand, always read the association description of vegetation composition, geographic distribution, and physical environment. If it sounds like it fits in most regards, you have made a correct identification. If there are multiple inconsistencies between the stand and the description, the key probably was incorrect. In this case, you probably need to try the key again and follow slightly different leads or identify the stand by reading the descriptions.

Key to Dominance Types

Trees >25%

Oregon white oak >25% Oregon white oak Woodland
Oregon white oak >50% of total tree cover Oregon white oak Woodland

Ponderosa pine >25% and total tree cover <70% (open canopy woodland) Savanna
Ponderosa pine >50% of total tree cover and total tree cover <70% Savanna

Lodgepole (shore) pine >25% Lodgepole pine – Douglas-fir Forest

Native deciduous broadleaf trees >75% of total tree cover Red alder – bigleaf maple Forest

Western hemlock or western redcedar >10%
..... Douglas-fir – western hemlock – western redcedar Forest

Western hemlock or western redcedar the dominant successful tree regeneration (see item 8 above) Douglas-fir – western hemlock – western redcedar Forest

Grand fir >10%.....	Douglas-fir – grand fir Forest
Pacific madrone >20%.....	Douglas-fir – Pacific madrone Forest
Grand fir the dominant successful tree regeneration	Douglas-fir – grand fir Forest
Douglas-fir the dominant successful tree regeneration	Douglas-fir Forest
Oceanspray + baldhip rose + snowberry + serviceberry + beaked hazelnut >25%	Douglas-fir Forest
Salal >25% <u>and</u> oceanspray >10%	Douglas-fir Forest
Tall Oregongrape, western fescue, blue wildrye, long-stolon sedge, yerba buena, bigleaf sandwort, pipsissewa, hairy honeysuckle or poison-oak >1% <u>or</u> any three of these species present	Douglas-fir Forest
Not as above.....	Douglas-fir – western hemlock – western redcedar Forest
Trees <25%	
Shrubs <25%	
Trees >10% <u>and</u> not confined to mesic microsites	Savanna
Trees <10% <u>or</u> confined to mesic microsites	Grassland
Shrubs >25%	Shrubland - Unclassified

Grassland Key

Roemer's fescue >10%	
Rosy plectritis >5%	FERO-PLCO
Great camas >5%	FERO-CALE
Red fescue >5% <u>and</u> Indian's dream present	FERU-FERO-ASDE
White-top aster, houndstongue hawkweed, prairie lupine, Idaho blue-eyed grass, or sickle-keeled lupine present	FERO-SERI
Field chickweed present, <u>and</u> showy fleabane, dune goldenrod or Howell's brodiaea present; deep soils.....	FERO-CEAR-ERSP
Field chickweed, Wallace's selaginella, prairie junegrass, Indian's dream, or blue wildrye present; shallow soils.....	FERO-CEAR-KOMA
Red fescue >5%	
Roemer's fescue >1% <u>and</u> Indian's dream present.....	FERU-FERO-ASDE
Great camas or Oregon gumweed present; located on bluffs or shallow soils near saltwater	FERU-GRST-(CALE)
California danthonia >10%	DACA-ERLA
California danthonia >10%.....	DACA-ERLA
Roemer's fescue, red fescue (native varieties), and California danthonia each <5%	Non-native or unclassified herbaceous vegetation

Savanna Key

- Roemer's fescue or California oatgrass >5%, or long-stolon sedge + blue wildrye >25%
 Ponderosa pine the dominant treePIPO/CAIN-FERO
 Oregon white oak the dominant tree QUGA/FERO
 Douglas-fir the dominant treePSME Savanna
- Roemer's fescue and California oatgrass each <5% and long-stolon sedge + blue wildrye <25%
Non-native or Douglas-fir Forest

Oregon white oak Woodland Key

- Oval-leaf viburnum + poison-oak >10% and each present..... QUGA/VIEL-TODI
- Common snowberry >10%
 Douglas-fir >25% and sword fern present QUGA-PSME/SYAL/POMU
 Oregon ash >25%..... QUGA-(FRLA)/SYAL
 Sword fern + enchanter's nightshade + Siberian springbeauty + starry solomon's seal >1%
 Riparian or wetland fringe site..... QUGA-(FRLA)/SYAL
 Douglas-fir >10% or Douglas-fir stumps numerous, not a riparian or wetland fringe site.....
 QUGA-PSME/SYAL/POMU
 Poison-oak and oceanspray each >10% QUGA/VIEL-TODI
 Long-stolon sedge or blue wildrye >1% QUGA/SYAL/CAIN
 Common snowberry >50% or Indian plum >25% QUGA-(FRLA)/SYAL
 Tall Oregongrape, long-stolon sedge, or blue wildrye present..... QUGA/SYAL/CAIN
- Common snowberry <10%
 Scot's broom >25% Non-native
 Tall Oregongrape >25% QUGA/SYAL/CAIN
 Long-stolon sedge, Roemer's fescue, red fescue, or blue wildrye >10% and common camas or
 western buttercup present QUGA/CAIN-CAQU
 Non-native grasses dominate understory Non-native
- Not as above try with half the values in the key, review association descriptions

Lodgepole pine – Douglas-fir Forest Key

- Salal >10%PICO-PSME/GASH
- Dwarf Oregongrape >5% PICO-PSME/MANE
- Not as above try with half the values in the key, review association descriptions

Red alder – bigleaf maple Forest Key

Site has wetland soils or is subject to influence of riverine flooding
 Not part of this classification, refer to other publications

Paper birch >10%..... BEPA-ALRU/POMU

Sword fern >10%
 Fringecup present and located on a steep slope or landslide deposit ACMA-ALRU/POMU-TEGR
 Fringecup absent or not located on a steep slope or landslide deposit ALRU/POMU

Bracken fern >10%..... ALRU/PTAQ

Not as above review association descriptions, may be non-native or unclassified

Douglas-fir – Pacific madrone Forest Key

Evergreen huckleberry >5%..... PSME-ARME/VAOV

Salal >10% PSME-ARME/GASH

Oceanspray, common snowberry, hairy honeysuckle or western fescue >1% PSME-ARME/HODI-LOHI

Not as above review association descriptions,
 may be non-native or part of Douglas-fir – western hemlock – western redcedar Forest

Douglas-fir Forest Key

Sword fern >60% PSME/COCO/POMU-TITR

Salal >10%
 Sword fern >5% PSME/GASH/POMU
 Oceanspray, tall Oregon grape, baldhip rose, or creeping snowberry present... PSME/GASH-HODI

Sword fern >10%.....
 Lady-fern, spreading woodfern, foamflower, or stinging nettle >3% or any two >1%
 PSME/COCO/POMU-TITR

Beaked hazelnut + snowberry >10% and each present..... PSME/COCO-SYMPH/POMU

Sword fern >5% and vine maple + beaked hazelnut > snowberry PSME/COCO-SYMPH/POMU

Snowberry >10%
 Spreading snowberry >10% PSME/SYMPH-AMAL
 Beaked hazelnut, starry solomon's seal, enchanter's nightshade, snow-queen or long-stolon sedge
 present PSME/SYMPH-AMAL
 Oceanspray and common snowberry each >10%..... PSME/SYAL-HODI

Starry solomon's seal, enchanter's nightshade, snow-queen or long-stolon sedge present.....
 PSME/SYMPH-AMAL

Spreading snowberry >5% PSME/SYMPH-AMAL

Beaked hazelnut + snowberry > baldhip rose + western fescue PSME/SYMPH-AMAL

Baldhip rose, oceanspray, or western fescue >1%..... PSME/ROGY-HODI

Not as above
 try with half the values in the key, review association descriptions and non-native types, if it does not fit
 association descriptions for this dominance type, try Douglas-fir – western hemlock – western redcedar
 Forest Key

Douglas-fir – grand fir Forest Key

Salal >10%	
Beaked hazelnut or vine maple >5% <u>and</u> sword fern >5%.....	PSME-ABGR/COCO/POMU
Oceanspray or baldhip rose >1%	PSME-ABGR/GASH
Sword fern >5%	
Beaked hazelnut or vine maple >10%.....	PSME-ABGR/COCO/POMU
Oceanspray >10%	PSME-ABGR/HODI/POMU
Oceanspray >10% <u>and</u> common snowberry >5% <u>and</u> sword fern present	PSME-ABGR/HODI/POMU
Western fescue >1%.....	PSME-ABGR/FEOC

Douglas-fir – western hemlock – western redcedar Forest Key

Devils club >10%.....	THPL-TSHE/OPHO/POMU
Oregon oxalis and sword fern each >5%.....	PSME-THPL/OXOR
Site located in Olympic Mountains rainshadow <u>and</u> western hemlock <25% <u>and</u> western redcedar + grand fir > western hemlock	
Sword fern >35%	THPL-ABGR/POMU
Salal + Pacific rhododendron >10%	
Sword fern >5%.....	PSME-THPL/GASH-MANE/POMU
Pacific rhododendron >5%	PSME-THPL/RHMA
Oceanspray or dwarf Oregongrape present.....	PSME-THPL-ABGR/GASH
Sword fern >10%	
Dwarf Oregongrape or salal >10%.....	PSME-THPL/GASH-MANE/POMU
Foamflower, lady-fern, or spreading woodfern >1%	THPL-ABGR/POMU
Dwarf Oregongrape >5%	PSME-THPL/GASH-MANE/POMU
Dwarf Oregongrape >5%	
Sword fern >5%.....	PSME-THPL/GASH-MANE/POMU
Sword fern <5%.....	PSME-THPL-ABGR/GASH
Site located outside Olympic Mountains rainshadow <u>or</u> western hemlock >25% <u>or</u> western hemlock > western redcedar + grand fir	
Sword fern >50% <u>or</u> lady-fern >3%	TSHE-PSME/POMU-DREX
Sword fern >10%	
Evergreen huckleberry >10%.....	PSME-TSHE/VAOV/POMU
Salal >10%	PSME-TSHE/GASH/POMU
Spreading woodfern + ladyfern + foamflower + deerfern >5% <u>or</u> > dwarf Oregongrape + oceanspray	TSHE-PSME/POMU-DREX
Salmonberry > dwarf Oregongrape + oceanspray	TSHE-PSME/POMU-DREX
Oceanspray or common snowberry >5%.....	PSME-TSHE/HODI/POMU
Dwarf Oregongrape >5%	PSME-TSHE/MANE/POMU

Evergreen huckleberry >5%	
Sword fern >3%.....	PSME-TSHE/VAOV/POMU
Pacific rhododendron >5%	PSME-TSHE/RHMA-VAOV
Rhododendron <5%	PSME-TSHE/VAOV
Pacific rhododendron >5%	PSME-THPL/RHMA
Salal >10%	
Sword fern >3%.....	PSME-TSHE/GASH/POMU
Oceanspray > 3% <u>or</u> > dwarf Oregongrape	PSME-TSHE/GASH-HODI
Dwarf Oregongrape, red huckleberry, or vine maple present.....	PSME-TSHE/GASH-MANE
Dwarf Oregongrape >5%	
Cutleaf foamflower (var. <i>laciniata</i>) >5%	PSME-TSHE/TITRLA
Sword fern >3%.....	PSME-TSHE/MANE/POMU
Salal >5%	PSME-TSHE/GASH-MANE
Cutleaf foamflower >1%	PSME-TSHE/TITRLA
Cutleaf foamflower <1%	PSME-TSHE/MANE
Cutleaf foamflower >1%	PSME-TSHE/TITRLA
Dwarf Oregongrape >1% or only indicator species present.....	PSME-TSHE/MANE
Understory Indicator species all absent (those listed in this key) and mosses dominate and understory not limited by too dense of tree canopy	PSME-TSHE/MANE
Not as above	try with half the values in the key, review association descriptions

Standard and Common Names and Codes for Species listed in the keys

Kartesz 2003 Name	Common Name	4-letter Code
<i>Abies grandis</i>	grand fir	ABGR
<i>Acer circinatum</i>	vine maple	ACCI
<i>Acer macrophyllum</i>	bigleaf maple	ACMA
<i>Alnus rubra</i>	red alder	ALRU
<i>Amelanchier alnifolia</i>	serviceberry	AMAL
<i>Arbutus menziesii</i>	Pacific madrone	ARME
<i>Aspidotis densa</i>	Indian's dream	ASDE
<i>Athyrium filix-femina</i> ssp <i>cyclosorum</i>	lady-fern	ATFI
<i>Betula papyrifera</i> var <i>papyrifera</i>	paper birch	BEPA
<i>Blechnum spicant</i>	deerfern	BLSP
<i>Camassia leichtlinii</i> ssp <i>suksdorfii</i>	great camas	CALE
<i>Camassia quamash</i>	common camas	CAQU
<i>Carex inops</i> ssp <i>inops</i>	long-stolon sedge	CAIN
<i>Cerastium arvense</i> ssp <i>strictum</i>	field chickweed	CEAR
<i>Chimaphila umbellata</i> ssp <i>occidentalis</i>	pipsissewa	CHUM
<i>Circaea alpina</i> ssp <i>pacifica</i>	enchanter's nightshade	CIAL
<i>Claytonia siberica</i> var <i>sibirica</i>	Siberian springbeauty	CLSI
<i>Clinopodium douglasii</i>	yerba buena	CLDO
<i>Corylus cornuta</i> var <i>californica</i>	beaked hazelnut	COCO
<i>Cytisus scoparius</i>	Scot's broom	CYSC
<i>Danthonia californica</i>	California danthonia	DACA
<i>Dryopteris expansa</i>	spreading woodfern	DREX
<i>Elymus glaucus</i>	blue wildrye	ELGL
<i>Erigeron speciosus</i> var <i>speciosus</i>	showy fleabane	ERSP

<i>Eriophyllum lanatum</i> var <i>lanatum</i>	woolly sunflower	ERLA
<i>Festuca occidentalis</i>	western fescue	FEOC
<i>Festuca roemerii</i>	Roemer's fescue	FERO
<i>Festuca rubra</i>	red fescue	FERU
<i>Fraxinus latifolia</i>	Oregon ash	FRLA
<i>Gaultheria shallon</i>	salal	GASH
<i>Grindelia stricta</i> var <i>stricta</i>	Oregon gumweed	GRST
<i>Hieracium cynoglossoides</i>	houndstongue hawkweed	HICY
<i>Holodiscus discolor</i>	oceanspray	HODI
<i>Juniperus scopulorum</i>	Rocky Mountain juniper	JUSC
<i>Koeleria macrantha</i>	prairie junegrass	KOMA
<i>Lonicera hispidula</i>	hairy honeysuckle	LOHI
<i>Lupinus albicaulis</i> var <i>albicaulis</i>	sickle-keeled lupine	LUAL
<i>Lupinus lepidus</i>	prairie lupine	LULE
<i>Mahonia aquifolium</i>	tall Oregongrape	MAAQ
<i>Mahonia nervosa</i>	dwarf Oregongrape	MANE
<i>Maianthemum stellatum</i>	starry false Solomon's-seal	MAST
<i>Oemleria cerasiformis</i>	Indian plum	OECE
<i>Oplopanax horridus</i>	devil's club	OPHO
<i>Oxalis oregana</i>	Oregon oxalis	OXOR
<i>Pinus contorta</i> var <i>contorta</i>	lodgepole pine	PICO
<i>Pinus ponderosa</i>	ponderosa pine	PIPO
<i>Plectritis congesta</i> ssp <i>congesta</i>	rosy plectritis	PLCO
<i>Polystichum munitum</i>	sword fern	POMU
<i>Pseudotsuga menziesii</i> var <i>menziesii</i>	Douglas-fir	PSME
<i>Quercus garryana</i> var <i>garryana</i>	Oregon white oak	QUGA
<i>Ranunculus occidentalis</i> var <i>occidentalis</i>	western buttercup	RAOC
<i>Rhododendron macrophyllum</i>	Pacific rhododendron	RHMA
<i>Rosa gymnocarpa</i>	baldhip rose	ROGY
<i>Rubus spectabilis</i> var <i>spectabilis</i>	salmonberry	RUSP
<i>Selaginella wallacei</i>	Wallace's selaginella	SEWA
<i>Sericocarpus rigidus</i>	white-top aster	SERI
<i>Sisyrinchium idahoense</i>	Idaho blue-eyed grass	SIID
<i>Solidago simplex</i> ssp <i>simplex</i> var <i>simplex</i>	dune goldenrod	SOSI
<i>Symphoricarpos albus</i> var <i>laevigatus</i>	common snowberry	SYAL
<i>Symphoricarpos hesperius</i>	spreading snowberry	SYHE
<i>Synthyris reniformis</i> var <i>reniformis</i>	snow-queen	SYRE
<i>Tellima grandiflora</i>	fringecup	TEGR
<i>Thuja plicata</i>	western redcedar	THPL
<i>Tiarella trifoliata</i> var <i>laciniata</i>	cutleaf foamflower	TITRLA
<i>Tiarella trifoliata</i> var <i>trifoliata</i>	threeleaf foamflower	TITR
<i>Toxicodendron diversilobum</i>	poison-oak	TODI
<i>Triteleia grandiflora</i> var <i>howellii</i>	Howell's brodiaea	TRGR
<i>Tsuga heterophylla</i>	western hemlock	TSHE
<i>Urtica dioica</i> ssp <i>gracilis</i>	stinging nettle	URDI
<i>Vaccinium ovatum</i>	evergreen huckleberry	VAOV
<i>Vaccinium parvifolium</i>	red huckleberry	VAPA
<i>Viburnum ellipticum</i>	oval-leaved viburnum	VIEL